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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,160	01/30/2002	Takeshi Miyakawa	218222US0PCT	1444
22850 7590 08/06/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER CHEVALIER, ALICIA ANN				
ART UNIT 1794		PAPER NUMBER		
NOTIFICATION DATE 08/06/2009		DELIVERY MODE ELECTRONIC		

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKESHI MIYAKAWA
and MIKIO SHIMIZU

Appeal 2009-004253
Application 10/030,160
Technology Center 1700

Heard: July 23, 2009
Decided: August 4, 2009

Before BRADLEY R. GARRIS, ADRIENE LEPIANE HANLON, and
BEVERLY A. FRANKLIN, *Administrative Patent Judges*.

FRANKLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 10-15. We have jurisdiction under 35 U.S.C. § 6(b).

STATEMENT OF THE CASE

Claims 10 and 15 are representative of the subject matter on appeal and are set forth below:

10. An embossed carrier tape comprising a sheet having at least one embossed pocket, wherein the sheet has a tear strength of at least 105 N/mm as defined in Japanese Industrial Standard K-7128-3 and comprises at least one thermoplastic resin other than a polyphenylene ether resin.

15. An embossed carrier tape comprising a sheet having at least one embossed pocket, wherein the sheet comprises a thermoplastic resin, has a base layer and a surface layer having a surface resistance of at most $10^{12} \Omega/\square$ on both sides of the base layer, and has a tear strength of at least 105 N/mm as defined [in] the Japanese Industrial Standard K-7128-3.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Maeda	US 5,346,765	Sep. 13, 1994
Schenz	US 5,361,901	Nov. 8, 1994
Miyamoto (as translated) ¹	JP 08-258888 A	Oct. 8, 1996

SUMMARY OF THE DECISION

We affirm.

THE REJECTIONS

Claims 10-15 are rejected under 35 U.S.C. § 103(a) over Schenz in view of Maeda.

Claims 10-15 are rejected under 35 U.S.C. § 103(a) over Schenz in view of Miyamoto.

¹ We use the English translation discussed by Appellants on page 3 of the Brief rather than the translation by computer.

ISSUE

Have Appellants shown that the Examiner reversibly erred in rejecting the claims by convincingly rebutting the Examiner's position that the claimed tear strength of the carrier tape is a result effective variable and therefore obvious?

FINDINGS OF FACT

We refer to the Examiner's undisputed findings made regarding the specific teachings of Schenz, Maeda, and Miyamoto. Ans. 3, 4, 6, and 7.

Tear strength is the determination of tear resistance (a measure of resistance to tearing). Miyamoto addresses the problem of tape breakage of a cover tape by recognizing that the property of tear strength is associated with tape breakage. Miyamoto, English translation, paras. [0003]-[0005]. Miyamoto addresses tape breakage of a cover tape due to stresses endured from pulling during peeling. Miyamoto, paras. [0002]-[0004]. Appellants' invention addresses tape breakage of a carrier tape due to stresses endured at a flange corner portion or sprocket hole portion from pulling during unwinding of the carrier tape from a reel. Specification, p. 1.

PRINCIPLES OF LAW

"When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is

beyond his or her skill.” *KSR Int’l. Co. v. Teleflex Inc.*, 550 US 398, 417 (2007).

A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 621 (CCPA 1977); *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980) (“[D]iscovery of an optimum value of a result effective variable . . . is ordinarily within the skill of the art.”); *see also In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003) (“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.”).

Once an examiner establishes a prima face case of obviousness, the burden of going forward shifts to the applicant. *In re Dillon*, 919 F.2d 688, 694 (Fed. Cir. 1990). To rebut the examiner’s prima facie case, the applicant must produce evidence of unobviousness, such as by presenting comparative testing data showing that the claimed invention possesses unexpectedly improved properties or properties that the prior art does not have. *In re Dillon*, 919 F.2d 688, 692-93 (Fed. Cir. 1990); *In re Chupp*, 816 F.2d 643, 646 (Fed. Cir. 1987); *In re Merck*, 800 F.2d 1091, 1098 (Fed. Cir. 1986).

When considering whether proffered evidence demonstrates patentability, a side-by-side comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims is needed, with an explanation as to why the results would have been unexpected by

one of ordinary skill in the art. *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1994); *In re Baxter Travenol Labs.*, 952 F.2d 388, 392 (Fed. Cir. 1991); *In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983); *In re Clemens*, 622 F.2d 1029, 1035 (CCPA 1980); *In re Freeman*, 474 F.2d 1318, 1324 (CCPA 1973); *In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972).

ANALYSIS

With regard to the rejections of the claims over Schenz in view of Maeda or Miyamoto, Appellants argue that the combination of Schenz in view of Maeda or Miyamoto is silent about the claimed tear strength of a carrier tape. Br. 6, 7, and 12.

Appellants also argue that the cited art does not recognize the central role played by tear strength in reducing the likelihood of carrier tape breakage. Br. 8-9. Appellants refer to the Declaration filed July 11, 2005 in support thereof. Br. 7-8. Appellants argue that the cited art does not indicate that carrier tape tear strength is a variable which achieves a recognized result. Reply Br. 4-5.

It is the Examiner's position that tear strength is a result effective variable and therefore obvious. Ans. 5. The Examiner also explains how Miyamoto's tear strength of a cover tape can be applicable to a carrier tape. Ans. 7 and 12.

We are not convinced by Appellants' arguments for the following reasons.

Tear strength is the determination of tear resistance (a measure of resistance to tearing). Miyamoto addresses the problem of tape breakage of a cover tape by recognizing that the property of tear strength is associated with tape breakage. Miyamoto, English translation, paras. [0003]-[0005].

Hence, contrary to Appellants' assertion, the cited art does in fact recognize the role played by tear strength. Although Miyamoto is directed to a cover tape rather than a carrier tape, as Appellants argue, the recognition of the association of tape breakage with tear strength exists in the cited art. As such, tear strength is a particular parameter recognized by the cited art as a result-effective variable, i.e., a variable which achieves a recognized result. Therefore, the determination of the optimum or workable ranges of this variable can be appropriately characterized as routine experimentation. *In re Antonie*, 559 F.2d at 621; *In re Boesch*, 617 F.2d at 276; *In re Peterson*, 315 F.3d at 1330.

Furthermore, given the similarity between tape breakage of a cover tape (stresses endured from pulling during peeling) versus a carrier tape (stresses endured at a flange corner portion or sprocket hole portion from pulling during unwinding of the carrier tape from a reel), it would have been logical to one of ordinary skill in the art to have determined an optimum tear strength value of the carrier tape of Schenz to prevent breakage thereof, just as Miyamoto determined an optimum tear strength value of a cover tape to prevent breakage thereof. *KSR*, 550 US at 417.

In view of the above, we agree with the Examiner's prima facie case of obviousness.

To rebut the examiner's prima facie case, the applicant must produce evidence of unobviousness, such as by presenting comparative testing data showing that the claimed invention possesses unexpectedly improved properties or properties that the prior art does not have. *In re Dillon*, 919 F.2d at 692-93; *In re Chupp*, 816 F.2d at 646; *In re Merck*, 800 F.2d at 1098.

In the instant case, for at least the reasons discussed by the Examiner on page 13 of the Answer regarding Appellants' Declaration filed on July 11, 2005, we are unconvinced by Appellants' declaration evidence. *In re De Blauwe*, 736 F.2d at 705; *In re Baxter Travenol Labs.*, 952 F.2d at 392; *In re Grasselli*, 713 F.2d at 743; *In re Clemens*, 622 F.2d at 1035; *In re Freeman*, 474 F.2d at 1324; *In re Klosak*, 455 F.2d at 1080.

CONCLUSIONS OF LAW

Appellants have not shown that the Examiner reversibly erred in rejecting the claims because Appellants unsuccessfully rebutted the Examiner's position that the claimed tear strength of the carrier tape is a result effective variable and therefore obvious.

DECISION

Each rejection is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v)(2008).

AFFIRMED

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